

## FIG. 1 (PRIOR ART)

LUBRICATING LAYER (105)
PROTECTION LAYER (104)
PERPENDICULAR MAGNETIC RECORDING LAYER (103)
PERPENDICULAR ORIENTATION UNDERLAYER (102)
SUBSTRATE (100)

## FIG. 2 (PRIOR ART)

LUBRICATING LAYER (205)
PROTECTION LAYER (204)
PERPENDICULAR MAGNETIC RECORDING LAYER (203)
SOFT MAGNETIC LAYER (202)
SUBSTRATE (201)

FIG. 3

LUBRICATING LAYER (306)
PROTECTION LAYER (305)
SECOND PERPENDICULAR MAGNETIC RECORDING LAYER (304)
FIRST PERPENDICULAR MAGNETIC RECORDING LAYER (303)
PERPENDICULAR ORIENTATION UNDERLAYER (302)
SUBSTRATE (301)

FIG. 4

LUBRICATING LAYER (407)
PROTECTION LAYER (406)
SECOND PERPENDICULAR MAGNETIC RECORDING LAYER (405)
FIRST PERPENDICULAR MAGNETIC RECORDING LAYER (404)
PERPENDICULAR ORIENTATION UNDERLAYER (403)
SOFT MAGNETIC LAYER (402)
SUBSTRATE (401)

FIG. 5

LUBRICATING LAYER (507)
PROTECTION LAYER (506)
SECOND PERPENDICULAR MAGNETIC RECORDING LAYER (505)
INTERMEDIATE LAYER (504)
FIRST PERPENDICULAR MAGNETIC RECORDING LAYER (503)
PERPENDICULAR ORIENTATION UNDERLAYER (502)
SUBSTRATE (501)

FIG. 6

LUBRICATING LAYER (608)
PROTECTION LAYER (607)
SECOND PERPENDICULAR MAGNETIC RECORDING LAYER (606)
INTERMEDIATE LAYER (605)
FIRST PERPENDICULAR MAGNETIC RECORDING LAYER (604)
PERPENDICULAR ORIENTATION UNDERLAYER (603)
SOFT MAGNETIC LAYER (602)
SUBSTRATE (601)

FIG. 7

LUBRICATING LAYER (706)
DLC PROTECTION LAYER (705)
SECOND CoCrBPt PERPENDICULAR MAGNETIC RECORDING LAYER (704)
FIRST CoCrBPt PERPENDICULAR MAGNETIC RECORDING LAYER (703)
Ti PERPENDICULAR ORIENTATION UNDERLAYER (702)
SUBSTRATE (701)

FIG. 8

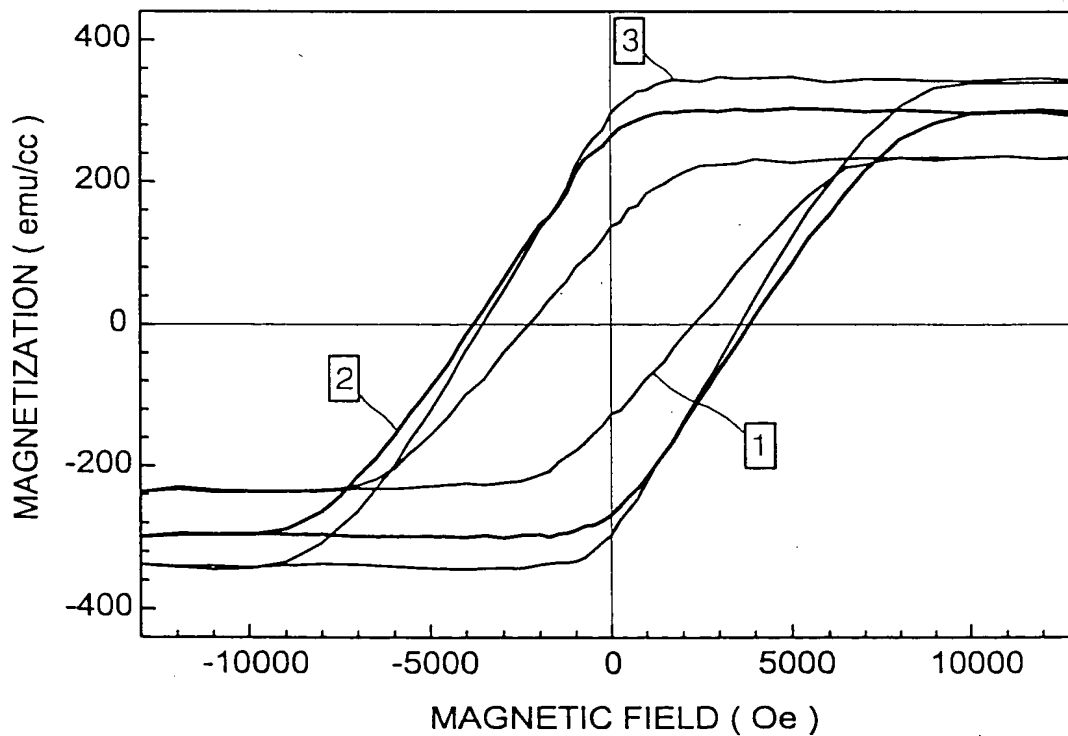


FIG. 9

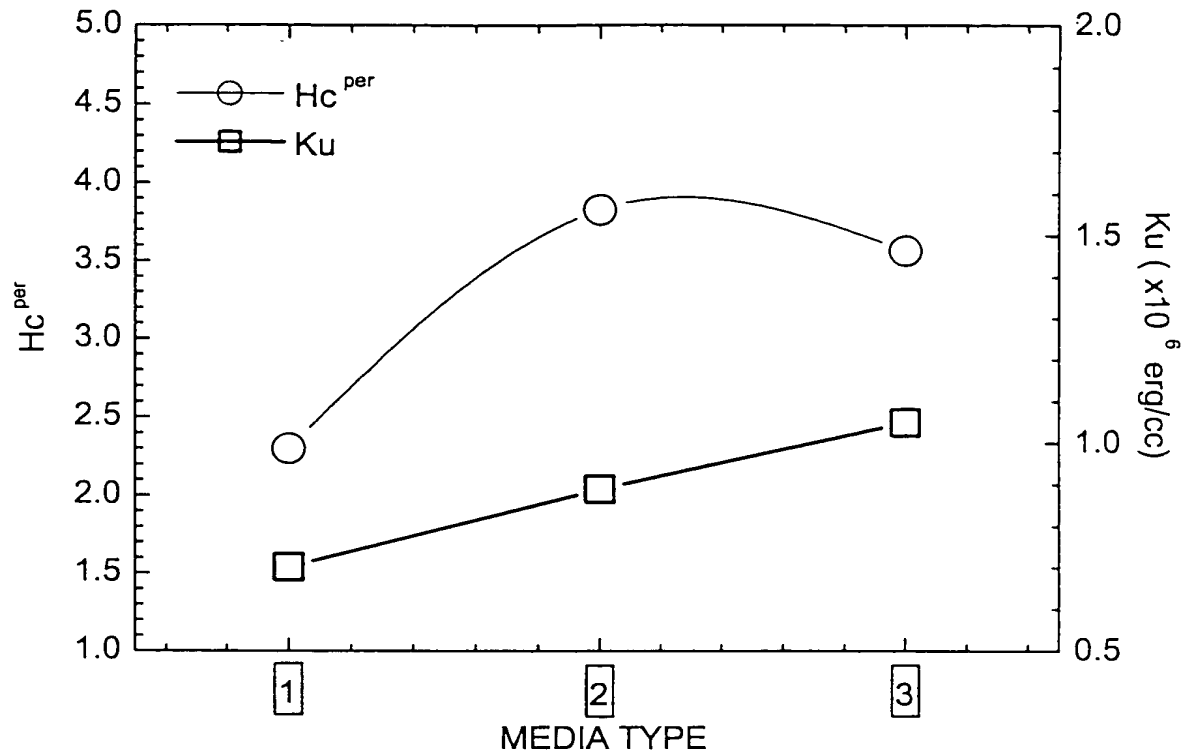


FIG. 10

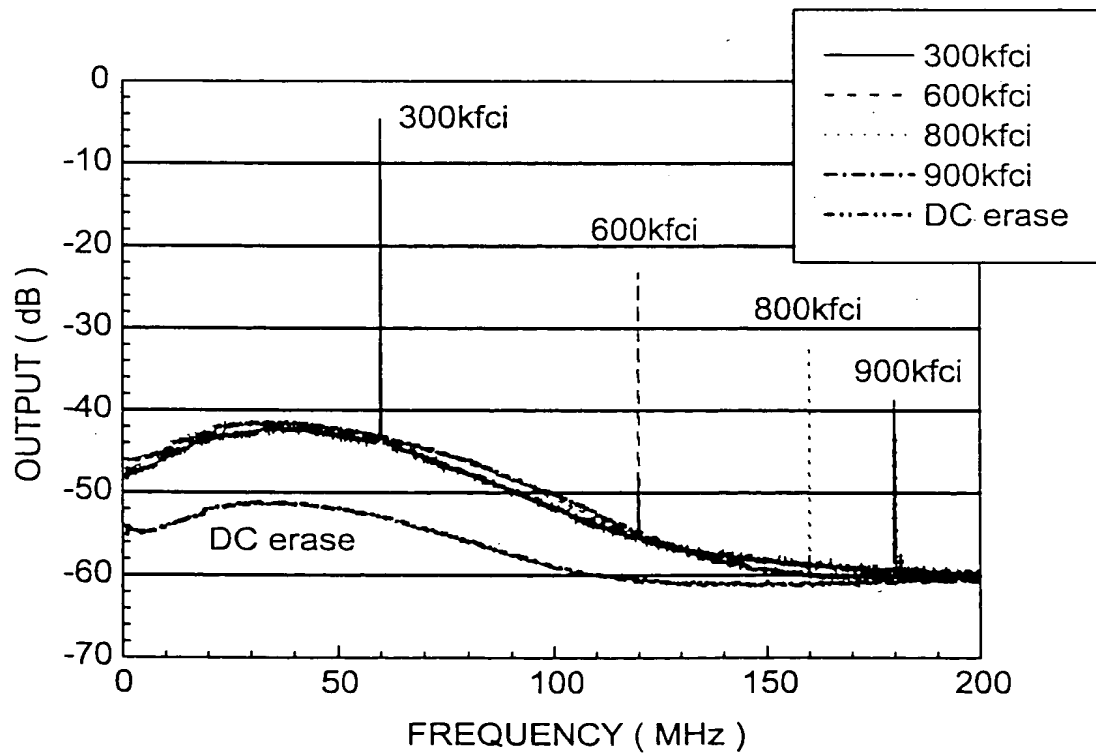


FIG. 11

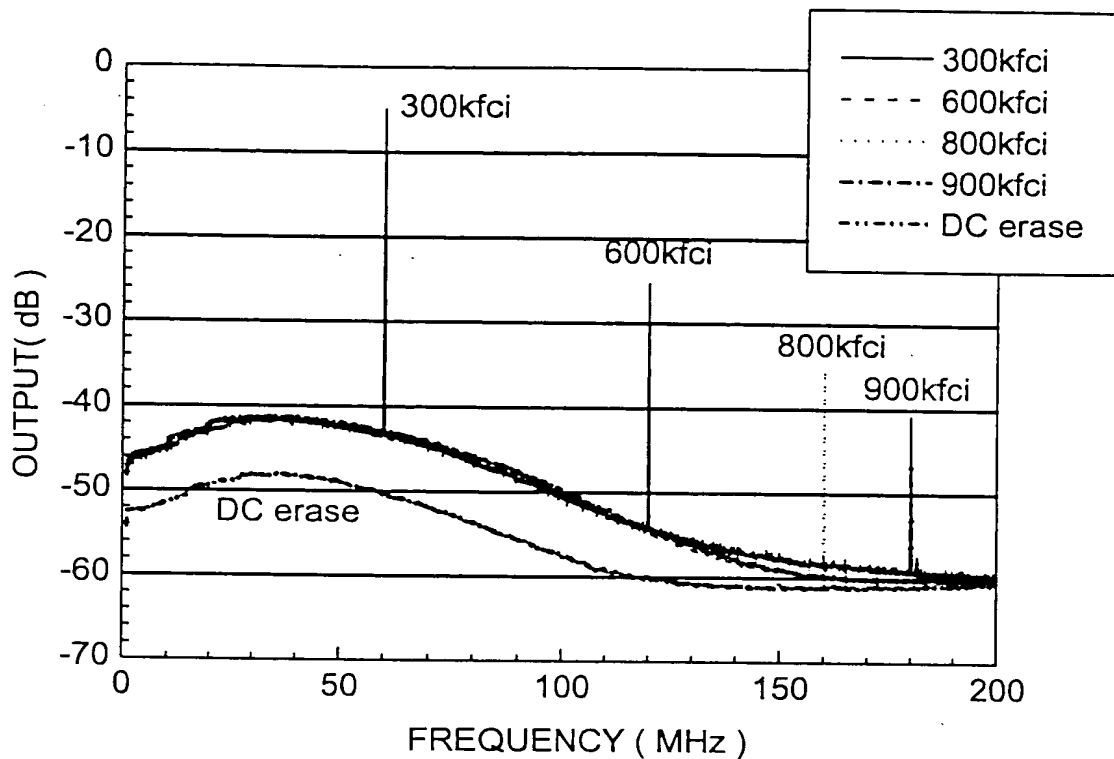


FIG. 12

